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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,656	04/21/2004	Martin G. Hartung	58493US003	4923
32692 7590 04/21/2009 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER BERHANU, SAMUEL				
ART UNIT		PAPER NUMBER		
2838				
NOTIFICATION DATE		DELIVERY MODE		
04/21/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com

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### Office Action Summary

**Application No.**

10/828,656

**Applicant(s)**

HARTUNG ET AL.

**Examiner**

SAMUEL BERHANU

**Art Unit**

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The indicated allowability of claims 32-50 are now withdrawn in view of new/alternate rationale.

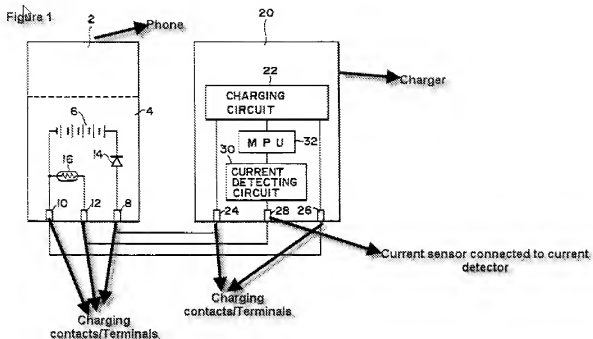
***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claim 32, 35-36, 39, 46 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729)(hereinafter Maeda)

As to Claim 32, Maeda discloses in Figures 1 and 2, comprising, Battery-powered handpiece, comprising;



a) Battery-powered handpiece, comprising:

(a) a housing (4);

(b) first and second charging contacts (see figure above) exposed on the housing (the contacts are located on the housing for 4), for connection to contacts of a battery contained within the housing; and

(c) a sensing contact (12 and 28) positioned on the housing for detecting electrolytic current flow through a fluid film on the housing between the first charging contact and the second charging contact.

Maeda does not disclose explicitly, detecting electrolytic current flow through a fluid film on the housing between the first charging contact and the second charging contact.

However, it is inherently disclosed, the current sensors of Maeda have capability to sense any current presented on the housing because the sensors are located on the housing. Any current that flows between the two charging contacts must pass through the current sensors and detected by the current sensors because the sensors are located between the two charging contacts.

It would have been obvious to a person having ordinary skill in the art to modify Maeda's current sensor in order to detect current between two electrical contacts in order to avoid battery damage due to short circuit.

As to Claim 35, Maeda discloses in Figures 1-3, a diode (14) located between said first charging contact (8) and said first contact of said battery for allowing charging current to flow from said first charging contact into said battery but preventing current flow in opposite direction.

As to Claim 36, Maeda discloses in Figures 1-3, a sensing pin (28) detecting electrolytic current flow between a first charging pin (10) and a second charging pin (12) (noted that when element 2 is on hook condition then the current flows between two charging pins, 10 and 12, is sensed by the current detector).

As to Claim 39, Maeda discloses in Figures 1-3, wherein said sensing pin of said charger device (30) is in contact with a sensing pin at said headpiece if said headpiece is connected to the charger device so that said sensing pin at said charger device further detects current flow between said first and second charging contacts of said handpiece, said current flow having a potential for initiating an electrochemical reaction

(noted that for examination purpose examiner assumed that "contacts" meant to refer pins).

5. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 5,861,729) in view of Kawashima (US 2002/0074970).

As to Claim 33, Maeda does not disclose explicitly, a magnet co-operating with a magnetically activatable switch arranged in a charger device, for initiating a charging operation once the battery-powered handpiece is eclectically connected to said charger device.

However, Kawashima discloses in Figures 1A-6, a magnet co-operating with a magnetically activatable switch (14, 24) arranged in a charger device, for initiating a charging operation once the battery-powered handpiece is eclectically connected to said charger device (see also paragraphs 0027-0029).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a magnetic switch with Maeda charger as taught by Kaswahima, for the benefit of allowing the circuit to only operate when a device with a magnetic means is brought into close proximity.

As to Claim 34, Kawashima discloses in Figures 1A-6, wherein said magnet (24) is arranged in proximity to the housing of the handpiece.'

6. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 5,861,729) in view of Compoly et al. (US 3,851,322)(hereinafter Compoly).

As to Claim 37, Maeda does not disclose explicitly, a warning means for giving a warning signal if current flow between said first and second charging pins is sensed by said sensing pin.

However, Compoly discloses in Figure 2, a warning means (14a) for giving a warning signal if current flow between said first and second charging pins is sensed by said sensing pin (see Abstract, Column 1, lines 60-67). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a short circuit monitoring means with a warning signal as taught by Compoly et al. in Maeda et al. device in order to monitor short circuit in the device.

As to Claim 38, Compoly discloses in Figures 1 and 2, comprising said warning means (202) provides and acoustic and/or optical warning.

7. Claims 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 5,861,729) in view of Inaba et. al. (US 5,945,809)(hereinafter Inaba)

As to Claim 40, Maeda does not disclose explicitly, an electronic switch connected to said sensing pins of said charger device for disconnecting a charging voltage applied to said first and second charging pins if current flow is sensed by said sensing pin.

However, Inaba discloses in Figures 1-6, Column 2, lines 65-67 and Column 3, lines 1-10, an electronic switch connected to said sensing pins of said charger device for disconnecting a charging voltage applied to said first and second charging pins if current flow is sensed by said sensing pin.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a short –circuit protection means in Maeda circuit as taught by Inaba in order to prevent the battery from catching fire due to generation of heat.

8. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 5,861,729) in view of Inukai et. al. (US 5,867,798) (hereinafter Inukai)

As to Claim 41, Maeda does not disclose explicitly, a detector for detecting the presence or absence of said battery powered handpiece and a switch for switching on/off the charging voltage dependent on detection of the presence/absence of said handpiece.

However, Inukai discloses in Figure1, a detector (16) for detecting the presence or absence of said battery powered handpiece and a switch (Q1) for switching on/off the charging voltage dependent on detection of the presence/absence of said handpiece (noted when device 3 is placed on the charger, 12, the charge control unit detects electrical connection between the charger and the battery terminals and activate the transistor accordingly).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a control means that activates a switch when the charger and the rechargeable device electrically meet as taught by Inukai in Maeda et. al. device in order to control the charging current.

9. Claims 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Inukai, and further in view of Watabe et. al. (US 5,793,186)(hereinafter Watabe).



As to Claim 42, neither Maeda nor Inukai disclose wherein said switch is selected from the group comprising mechanical switches, optical switches, electromechanical switches, electro-optical switches or magnetic switches.

However, Watabe discloses in Figures 1 and 2, switch is selected from the group comprising mechanical switches, optical switches, electromechanical switches, electro-optical switches or magnetic switches (see also column 1, lines 38-42).

It would have been obvious to one having ordinary skill in the art at the time of this invention to use a magnetic switch as taught by Watabe with the charger of Maeda, for the benefit of allowing the circuit to only operate when a device with a magnetic means is brought into close proximity.

As to Claim 43, Watabe discloses, the magnetic switch comprises a magnetically activatable switch being operable in response to a magnet arranged in said handpiece (See Column 1, lines 38-42).

As to Claim 44, Watabe discloses wherein said magnetically activatable switch comprises a Reed Switch (Column 1, lines 38-42)

As to Claim 45, Inukai discloses in Figures 1 and 2, switch allowing a charging voltage to be applied to said charging pins in the presence of said handpiece.

10. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda in view of Kennedy (US 5,233,283).

As to Claims 47 and 49, Maeda does not disclose explicitly, wherein said a handpiece is a dental tool. However, Kennedy discloses a dental cure light (Column 2, line 42- 45).

It would have been obvious to one having ordinary skill in the art at the time of this invention to Maeda's charging circuit with the ability to distinguish between nickel-hydride and nickel-cadmium battery packs, to charge a battery of Kennedy's dental tool.

As to Claims 48 and 50-51, Kennedy discloses a dental cure light (Column 2, line 42- 45).

AS to Claims 46 and 50-51 see remarks and rejections above

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMUEL BERHANU whose telephone number is (571)272-8430. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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